12. The static induction semiconductor device of claim 10, characterized in that said main electrode in contact with said first main electrode region is formed of aluminum (Al), molybdenum (Mo), tungsten (W), platinum (Pt), titanium (Ti), nickel (Ni) or their silicon (Si)-base alloys or silicides.

13. The static induction semiconductor device of claim 10, characterized in that said higher impurity density region in said first main electrode region is composed of separated regions.

14. The static induction semiconductor device of claim 10, characterized in that said control region has a buried structure.

15. The static induction semiconductor device of claim 10, characterized in that said control region has a recessed structure.

16. The static induction semiconductor device of claim 10, characterized in that said control region has a planar structure.

17. The static induction semiconductor device of claim 10 is a static induction thyristor.

18. The static induction semiconductor device of claim 10 is a static induction transistor.

19. A static induction semi-conductor device in accordance with claim 10, wherein:

said short circuit region has a depth into said high resistivity layer which is less than a depth of said higher impurity density region into said high resistivity layer.

20. A static induction semiconductor device comprising:

a high resistivity layer with a first and second main surface;

a first main electrode region formed in said first main surface of said high resistivity layer;

a second main electrode region formed in said second main surface of said high resistivity layer;

a control region formed adjacent said first main electrode region and said control region forming a channel region in said high resistivity layer and controlling a height of a potential barrier in said channel region to control a main current between said first main electrode region and said second main electrode region;

a high and low density region formed in said first main electrode region, said high density region having an impurity density higher than said low density region;

a short-circuit region formed in said low density region and surrounded by said high density region, said short-circuit region being of a same conductivity type as said control region and opposite to said high density region to form a potential barrier in said low region between said short-circuit region and said control region by a depletion layer spreading from said high density region into said low density region, said high and low density regions being of a same conductivity type and opposite to said control region, said short circuit region having a depth into said high resistivity layer less than a depth of said high density region into said high resistivity layer;

a main electrode formed in contact with said first main electrode region and partly in contact with said low density region, said short-circuit region and said high density region.

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